

## 7. Signal-Dependent Branch Metric Function

# Signal-Dependent Branch Metric Function

Claim Term	CMU's Construction	Marvell's Construction
signal-dependent branch metric function	a “branch metric function” that accounts for the signal-	a “branch metric function” that accounts for “signal-dependent noise.”

- The Dispute:
    - Does “signal-dependent branch metric function” have its ordinary meaning (Marvell) or should it be limited to a particular type of noise (media noise) found in magnetic recording (CMU)?

# No Further Construction Necessary

- Where “the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, [ ] claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”

*Phillips*, 415 F.3d at 1314.

- ▶ Jury will be instructed on agreed-to meanings:
  - “signal sample” means “a value of a signal at a certain point in time.”
  - “branch metric function” means “a mathematical function for determining a ‘branch metric value’ for a ‘branch.’”
  - “noise” means “an unwanted disturbance in a signal.”
- ▶ “dependent” is well-known
- ▶ “Signal Dependent Branch Metric Function” thus means “a branch metric function that accounts for signal-dependent noise”

Joint Agreed Terms (Dkt. 74)

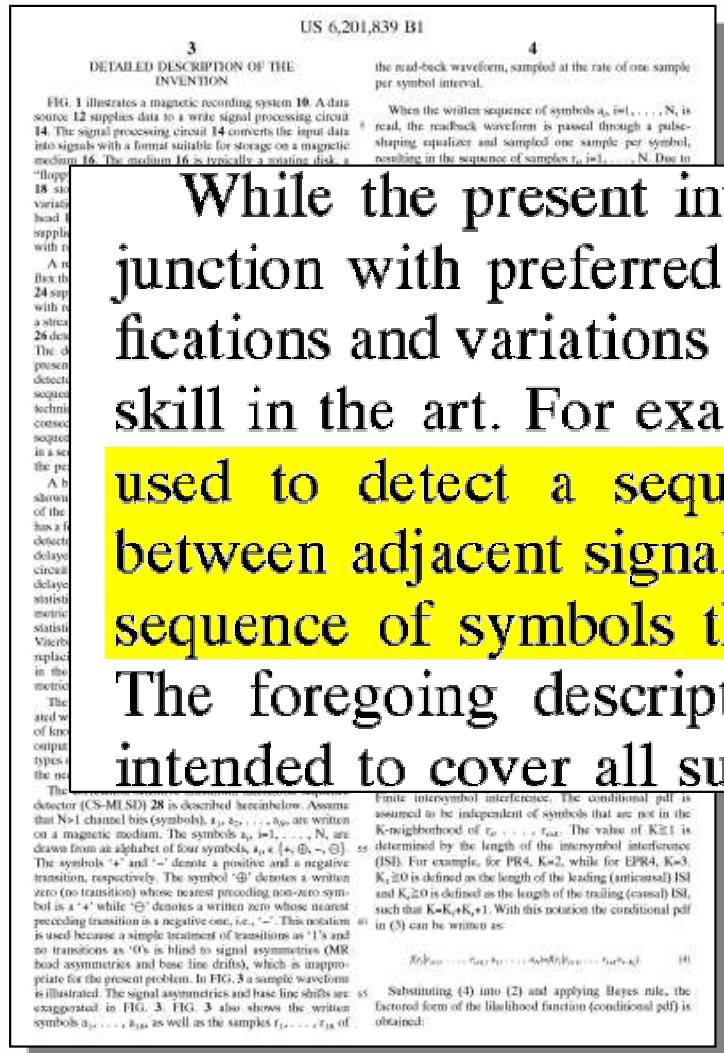
# CMU's "Media Noise" Argument Fails

- Claimed method not limited to magnetic recording
- Method refers to a generic set of signal-dependent branch metric functions

4. A method of determining branch metric values for branches of a trellis for a Viterbi-like detector, comprising: selecting a branch metric function for each of the branches at a certain time index from a set of signal-dependent branch metric functions; and applying each of said selected functions to a plurality of signal samples to determine the metric value corresponding to the branch for which the applied branch metric function was selected, wherein each sample corresponds to a different sampling time instant.

'839 Patent Claim 4; see also '839 Patent Claim 3, '180 Patent Claim 2

# CMU's "Media Noise" Argument Fails



While the present invention has been described in conjunction with preferred embodiments thereof, many modifications and variations will be apparent to those of ordinary skill in the art. For example, the present invention may be used to detect a sequence that exploits the correlation between adjacent signal samples for adaptively detecting a sequence of symbols through a communications channel.

The foregoing description and the following claims are intended to cover all such modifications and variations.

'839 Patent 13:51-59

- “Signal dependent noise” is different in other communications channels

See *supra*, slides 61-66